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# Test Excavations at Site 41BW422 FM 560 at Barkman Creek Bowie County, Texas

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# Test Excavations at Site 41BW422 FM 560 at Barkman Creek Bowie County, Texas

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TEST EXCAVATIONS AT SITE 41BW422 FM 560 AT BARKMAN CREEK BOWIE COUNTY, TEXAS

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Texas Department of Transportation Division of Highway Design February 1992

#### ABSTRACT

The Texas Department of Transportation (TxDOT) plans to replace a bridge on FM 560 at Barkman Creek, just north of Hooks, Texas. The bridge replacement will not cause direct impacts to archaeological sites, but the bridge location requires that a small segment of Barkman Creek be channelized to control erosion and flooding.

During routine survey, TxDOT personnel determined that the channelization would disturb site 41BW422. Testing was scheduled for June 1991 in order to determine the site's eligibility for the national register.

Based on the results from these investigations, 41BW422 appears to be an open campsite dating to an Archaic or pre-ceramic period. However, no diagnostic artifacts were found. One intact cultural feature (a prehistoric trash pit) was found, and there is a lack of research on such sites.

The site is considered eligible for inclusion in the National Register of Historic Places under Criterion D, for the information the site might provide in prehistory.

#### TABLE OF CONTENTS

ABSTRACT	٠	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	i
LIST OF FI URES	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	iii
LIST OF TA LES	•	•	•	•	•		•	•	•	•	•	•	•	•	•		•	•		•	•	•	•	•	•	•	iv
TNTRODUCTI N	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	-	1
ENVIRONMENTAL SETTING	•		•	•	•	•	•	•	•	•	•	•	•	•		•			•	•		•			-		3
CULTURAL SETTING	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	4
FIELD METHODS	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	6
STRATIGRAPHY	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	8
ARTIFACT DESCRIPTIONS	•	•	٠	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	10
FEATURE DESCRIPTIONS		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	15
CONCLUSIONS	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	٠	•	•	•	•	•	•	•	•	•	17
REFERENCES CITED																											18

#### LIST OF FIGURES

FIGURE	l.	Location of Site 41BW422
FIGURE	2.	Location of test units and trenches at Site 41BW422
FIGURE	3.	Profiles from test units
FIGURE	4.	Bifaces found during testing
FIGURE	5.	Feature 1, plan view and cross section 15
FIGURE	6.	Feature 2. plan view and cross section 16

# LIST OF TABLES

TABLE 1.	The chronological sequence in northeast Texas	•		•			•				5
TABLE 2.	Description of Trench 3 profile										8
TABLE 3.	Description of Trench 5 profile			•							8
TABLE 4.	Chipping debris			•			•				10
TABLE 5.	Burned rock fragments	•	•	•	,	•		•	•	•	14

#### INTRODUCTION

Site 41BW422(Fig. 1) is on a low terrace of Barkman Creek just west of FM 560 in Bowie County. A portion of the site is in a pasture which was cultivated with hay at the time of our visit. The northernmost part of the site is in a meander of the stream, where oak-hickory forest predominates.

The Texas Department of Transportation (TxDOT) plans to excavate a channel across the meander. During a cultural resources survey in October 1990, TxDOT discovered Site 41BW422, where flakes and small burned rock fragments were observed on the west end of the proposed channel.

Testing was conducted in June 1991. A total of seven 1x1 meter test units were excavated in 10-cm levels. The deepest unit was excavated down to 90 cm. No features were found in the test units. Flakes and fragments of burned rock were found, along with a few stone implements. However, no diagnostic artifacts were found.

In addition, a Gradall was used to cut six (6) trenches, allowing quick assessment of the presence of features. Two anomalies were listed as features. Both were found in the trenches, but only one (Feature 1) appears to be cultural; it represents a trash pit.

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#### ENVIRONMENTAL SETTING

Bowie County is within the Austroriparian biotic province (Blair 1950), which extends throughout East Texas from Harris County northward to Red River County. Within this environmental zone pine-oak forests predominate. Blair notes that the vegetation is similar to that found eastward to the Atlantic coast. Gould identifies roughly the same portion of Texas as the Pineywoods area (Gould 1969), and notes that the pines are probably a subclimax or fire disclimax vegetation for the region. Soils of the Pineywoods are generally sandy and acidic.

Carr (1977) characterizes most of northeast Texas, including the study area, as a single climatic area typified by summer droughts with peaks in rainfall during April and May, and again during November and December. Total annual precipitationis typically 48 in., with 50% falling between April and September (Roberts 1983:2-3, 82).

The site is on a stream terrace, with hardwood forest to the north along Barkman Creek and cultivated hay fields to the south and west.

#### CULTURAL SETTING

#### Previous Archaeological Research

There is a long history of archaeological research in northeast Texas which has been summarized elsewhere (Wyckoff and Ragland-Fisher 1985:7-8, Gilmore and McCormick 1980, Guy 1988). The first inventory of archaeological sites in the region was made by Edward Palmer, a botanist from the Peabody Museum (Putnam 1880). In 1879 and 1880, he travelled to Texas and northern Mexico and described several east Texas sites.

In the early part of the twentieth century, Moore (1912) compiled a catalog of sites along the Red River and adjacent areas. Among the sites Moore recorded are 41BW2 (Moores Site), 41BW3 (Hatchel Site), and 41BW14 (McCabe Mounds). Harrington (1920) investigated about 20 sites in southwest Arkansas beginning in 1916 and continuing through the 1930s (Guy 1988:23)

The first detailed scientific studies of archaeological sites in Texas were conducted by Pearce beginning in 1919 (Guy 1988:24-52, Pearce 1919). Affiliated with UT, Pearce organized a program of intensive reconnaissance and excavation in northeast Texas between 1929 and 1932 (Pearce 1932a, 1932b). Jackson, working for Pearce, excavated at Sites 41BW1, 41BW2, 41BW3, and 41BW4 (Mitchell Site) in Bowie County in 1932. He continued working in the region throughout the 1930s (Jackson 1933, 1938). Sayles also worked at Site 41BW3 during the 1930s for Gila Pueblo (Sayles 1935). The Works Progress Administration funded research by Beatty at Site 41BW3 and Woolsey at Site 41BW4 (Duffen et al. 1940).

During World War II, funding was limited and archaeologists were forced to cease field work and reassess all of the data collected over the previous 20 years. In attempting to make sense of this data, Krieger (1946) developed chronological schemes and artifacts typologies, many of which are still used today in one form or another.

In the 1950s, archaeologists continued to be concerned with chronology and typology (Bell and Baerreis 1951; Suhm, Krieger, and Jelks 1954; Suhm and Jelks 1962). However, there was a resurgence of field work associated with the construction of reservoirs. Texarkana Reservoir (the eastern portion of what is now Lake Wright Patman) was the subject of several archaeological studies in the 1950s and 1960s. In 1949, Stephenson surveyed Lake Texarkana (Guy 1988:141-142). In 1952, Jelks (1961) excavated Sites 41CS8, 41CS14, and 41CS26 on the Cass County side of the reservoir flood pool. In 1970, the Texas Historical Survey Committee examined the portion of Lake Wright Patman just west of the Texarkana Reservoir (Briggs and Malone 1970).

Although sites abound along the Red River and Barkman Creek, since 1970, those which have gotten the most attention include Hatchel Mounds/Paul Mitchell Farm (Creel 1984, Dow 1987, Lanning 1968) and Roseborough Lake (Miroir et al. 1973, Wedel 1978, Gilmore 1986). Gilmore and McCormick surveyed the Red River in the late 1970s (Gilmore and McCormick 1980).

### Chronology

The chronology presented below has been adapted from studies by Gilmore and McCormick (1980) and Davis (1970). Although I have chosen to use the terms "stage" and "phase", most Texas archeologists continue to use the less exact term, "period", interchangeably with the former terms.

MODERN CHRONOI STAGE	OGY: Phase	MCKERN SYSTEM ASPECT	DATES:		
Historic	Caddo V	Fulton	Kinslœ Allen Glendora Norteno Late Belcher	A.D. 1600-1800	
Formative	Caddo IV		Titus (TX) Belcher (LA)	A.D. 1500-1600	
			Texarkana (TX)		
	Caddo III		Whelan (TX) Bossier (LA)	A.D. 1400-1500	
	Caddo II	Gibson	Haley Sanders	A.D. 1200-1400	
	Caddo I		Alto Gahagan	A.D. 700-1200	
Early Formative	Fourche Haline Coles Creek	"Pre-Caddo"		A.D. 400-700	
"Early Ceramic"	Troyville Harksville Tchefuncte				
Archaic		La Harpe		4000 B.CA.D. 400	
Paleoindian				Before 4000 B.C.	

TABLE 1. The chronological sequence in northeast Texas.

#### FIELD METHODS

A transit was used for mapping the site and for measuring elevations in test units and trenches. A datum was established at the top of a wooden stake in the western part of the site within the easement. This datum was arbitrarily assigned an elevation of 100 meters.

Seven (7) test units (TU) were excavated by hand (Fig. 2). The units were not on a grid, and were numbered in the order in which they were excavated. Each unit measured 1x1 meter horizontally, and was dug in 10-cm levels. The one exception was TU-4, where levels 7 and 8 were combined into a single 20-cm level, and level 9 was a 5-cm level. The units extended to as deep as 90 cm. All matrix was sifted through 0.25-inch hardware cloth and the bottom and walls of each level were scraped with a trowel. As each test unit was completed, a profile sketch was made for one wall. No features were found in any of the test units.

Distributions of artifacts (see page 10) are concentrated in Test Units 1 through 4. Very little archaeological material was found in Test Units 5, 6, or 7.

In addition, six (6) trenches were excavated using a Gradall. The trenches went to depths of between 75 and 200 cm. Two anomalies were uncovered using this technique and were designated as features. One of these (Feature 1) appears to be a prehistoric trash pit. The other is probably a krotovina.

Troweling the walls of Trenches 1, 2, and 4 exposed occasional flakes and small fragments of burned rock. These were not seen in Trenches 3, 5, or 6. Trench 3 was on a lower terrace than the others, and the boundary between the two terraces appears to mark the edge of the site (as it exists today).



FIGURE 2. Location of test units and trenches at Site 41BW422.

#### STRATIGRAPHY

Stratigraphy was similar in all the trenches and test units except Trench 3, which was on a different terrace than the others. Stratigraphic profiles of the trenches are shown in the tables below. Trench 5 is shown as representative of the majority of trenches. The test units had profiles (Fig. 3) with strata similar to the majority of trenches.

TABLE 2. Description of Trench 3 profile.

Depth (cm)	Description
0-15	Brown silt, many roots
15-30	Brown silt grading to reddish tan silt
30-40	Tan to yellowish silt
40-120	Red clay

TABLE 3. Description of Trench 5 profile.

Depth (cm)	Description					
0-15	Light reddish tan to gray silt					
15-35	Light reddish tan to gray with lots of krotovina and tree roots					
35-70	Reddish silt loam					
70-110	Reddish silt loam with Fe-Mg nodules					

In general, archaeological remains were present in the central part of the main terrace to depths of between 60 and 80 cm below the modern surface. At the site margins, remains were found mainly in the upper two or three levels, indicating that their distributions are due to the effects of sheet erosion and cultivation. It appears that the core of the site within the TxDOT easement is restricted to the area centered on Test Units 2 and 4, and including Test Units 1 and 3. Test Units 5, 6, and 7 are at the site periphery, or outside the site altogether.

The boundary of the site follows the contour on the north and east sides of the terrace, where the creek has meandered in the past. Either this meandering has eroded away the eastern edge of the site, or the creek bank was at the terrace boundary when the site was occupied.



FIGURE 3. Profiles from test units.

#### ARTIFACT DESCRIPTIONS

#### Chipping Debris

Flakes, chips, and chunks are summarized in Table 4. Lithic debris was most frequent in Test Units 1, 2, 3, and 4. It was rare in Test Units 5 and 6, and small amounts were found in Test Unit 7. In Test Units 5, 6, and 7, distribution was limited to the upper levels only. All of the flakes are small thinning and retouch flakes, with very few hard-hammer flakes. There is little evidence of bipolar flaking. Activities associated with the collection would include tool resharpening and the final stages of stone tool manufacture.

PROVENIENCE	LEVEL (cm)	PRIMARY	SECONDARY	TERTIARY	CHIPS	CHUNKS
TEST UNIT 1 (1x1 meter)	1 (0-10) 2 (10-20) 3 (20-30) 4 (30-40) 5 (40-50) 6 (50-60)	<b>4</b> - - -	1 2 - - -	13 9 4 1 -	11 3 - -	
TEST UNIT 2 (1x1 meter)	1 (0-10) 2 (10-20) 3 (20-30) 4 (30-40) 5 (40-50) 6 (50-60) 7 (60-70) 8 (70-80) 9 (80-90)	4 1 2 1 3 2 4 1 -	8 4 7 4 1 1 2 4 -	23 16 17 9 20 17 7 -	8  19 14 13 15  2 -	
TEST UNIT 3 (1x1 meter)	1 (0-10) 2 (10-20) 3 (20-30) 4 (30-40) 5 (40-50) 6 (50-60) 7 (60-70) 8 (70-80)	2 - - - - - -	3 3 5 - -	16 9 8 6 5 2 -	21 11 6 3 - 2 1 -	- - 1 - 1 -
TEST UNIT 4 (1x1 meter)	1 (0-10) 2 (10-20) 3 (20-30) 4 (30-40) 5 (40-50) 6 (50-60) 7/8 (60-80) 9 (80-85)	1 - - 4 - 1 -	4 2 6 9 2 - - -	13 10 6 16 4 1 -	7 7 9 - 1 1 5 -	- - - - - - -

TABLE 4. Chipping debris (all excavated levels listed).

TABLE 4. (continued).

PROVENIENCE	LEVEL (cm)	PRIMARY	SECONDARY	TERTIARY	CHIPS	CHUNKS
TEST U N I5T (1x1 meter)	1 (0-10) 2 (10-20) 3 (20-30) 4 (30-40)			1 - -	- - -	
TEST UNIT 6 (1x1 meter)	1 (0-10) 2 (10-20) 3 (20-30) 4 (30-40) 5 (40-50)			1 1 - -	1 - - -	
TEST UNIT 7 (1x1 meter)	1 (0-10) 2 (10-20) 3 (20-30) 4 (30-40) 5 (40-50)	- - 1 -	1 2 - -	1 3 - -	2 8 1 -	- - - -
FEATURE 1 FEATURE 2	- (50-60) - (73-78)	1	-	6	-	-

#### Modified Flakes

Only two madified flakes were found. Modified Flake #1 is from Test Unit 2, Level 3 (20-30 cm below surface). It is a secondary flake of heat-reddened chert, with unifacial wear on the dorsal face of the left lateral edge. The damage along this edge is so minimal that it may have been caused by natural breakage rather than use.

Modified Flake #2 is from Test Unit 4, Level 5 (40-50 cm). It consists of a tertiary flake of novaculite or Frisco quartzite and exhibits unifacial wear on the dorsal face of the distal edge. The edge damage is regular and small with no crushing. It was probably used only for a short time for cutting or scraping soft material.

#### Bifaces and Biface Fragments

Three bifaces were found. One of these represents a preform, another is a complete knife or dart point, and the third is a biface fragment which appears to have been shattered by heat or during manufacture/resharpening.

Biface #1(Pig. 4A), from Test Unit 1, Level 2, is of heat-reddened chert and has been thinned and shaped. The glossiness of the flake scars may indicate that chipping was done after the piece was heated (i.e., that the biface was heat-treated prior to thinning). The base has two notches and a stubby, contracting stem. This biface probably represents a preform for a biface similar to Biface #2.



FIGURE 4. Bifaces found during testing. Test Unit 1, Level 2: A; Test Unit 4, Level 1: B.

Biface # 2 (Fig. 4B) is of quartzite and was found in Test Unit 4, Level 1. It exhibits a potlid fracture in the center of the blade on one side. The potlid cuts across the flake scars - indicating that heating probably occurred after the tool was manufactured.

The specimen is corner-notched with short barbs and a contracting stem. Although the blade is wider than that of a classic Gary point, its overall appearance is suggestive of this common projectile type. The middle of one lateral edge is rounded and exhibits crushing and bifacial step-flaking. Such use-wear is consistent with that found on prehistoric knives. The implement was probably well used before it was discarded.

Biface #3 (not illustrated) is from Test Unit 4, Level 4. It represents a thin sliver from along the edge of a bifacial blade. It is of heat-reddened chert, and about half of the worked edge has been fractured by heat. This probably represents waste from resharpening, or abandonment of a tool which subsequently was subjected to heat.

#### Burned Rock

Burned rock fragments (Table 5) were common in all test units, but followed a distributian similar to that observed for chipping debris. With few exceptions, all of the burned rock found at the site consisted of small fragments less than 2 cm in diameter.

#### Historic Remains

A small piece of road asphalt was found in Test Unit 3, Level 1. In addition, six(6) iran fragments were found in Test Unit 7, Level 2. No other historic debris was recovered.

TABLE 5. Burned rock fragments.

		MEAN DI	AMETER
PROVENIENCE	LEVEL (cm)	UNDER 2 cm	OVER 2 cm
TEST UNIT 1	1 (0-10) 2 (10-20) 3 (20-30)	10 5 2	
TEST UNIT 2	1 (0-10) 2 (10-20) 3 (20-30) 4 (30-40) 5 (40-50) 6 (50-60) 7 (60-70) 8 (70-80)	8 29 15 28 11 20 14 2	
TEST UNIT 3	1 (0-10) 2 (10-20) 3 (20-30) 4 (30-40) 5 (40-50) 6 (50-60)	24 19 21 34 6 1	
TEST UNIT 4	1 (0-10) 2 (10-20) 3 (20-30) 4 (30-40) 5 (40-50) 6 (50-60) 7/8 (60-80)	38 50 35 87 26 16 6	
TEST UNIT 5	1 (0-10)	1	-
TEST UNIT 6	2 (10-20) 3 (20-30)	2 1	- ~
TEST UNIT 7	1 (0-10) 2 (10-20) 3 (20-30)	8 8 1	2 - -
FEATURE 1	- (50-60)	7	1

#### FEATURE DESCRIPTIONS

Two features were identified during testing, although only one of these (Feature 1) appears to be a cultural manifestation. Both were found while trenching with a Gradall.

Feature 1 (Fig. 5) occurred in Trench 1 at a depth of about 50 cm below the modern surface. At first, it was visible as an irregularly shaped ashy stain. Scraping with a trowel revealed a smaller, dark brown, circular stain within the ashy deposit. Burned rock and charcoal were visible in the central stain. A cross section was made, cutting the circular stain with a north-south line. In profile, the dark stain appeared to be at the bottom of a basin-shaped pit. The ashy soil was shallow within the profile, but extended vertically in the wall of the trench as illustrated in Figure 5. The boundaries of this ashy soil were diffused and difficult to define in the trench wall. The feature probably represents a small trash pit, with the ashy, upper portion disturbed.



FIGURE 5. Feature 1, plan view and cross section.

Feature 2 (Fig, 6) was found in Trench 2 at a depth of about 73 cm below the modern surface. It appeared as a small, roughly circular stain of dark, greasy clay or shale. In cross section, it was very shallow. This feature is not considered to be cultural in origin. Its shape, cross section, and the nature of its fill matrix suggest that it represents a krotovina.



FIGURE 6. Feature 2, plan view and cross section.

#### CONCLUSIONS

Within the TxDOT easement, the site covers only a small area. The results of testing at Site 41WB422 indicate that the site represents an open campsite dating to a pre-pottery (probably Archaic Stage) time period. Although none of the artifacts recovered were diagnostic, two bifaces have contracting stems, which may be an indication of a Late Archaic component. Two features were identified, but only one appears to be cultural in origin.

Although the portion of the site within the easement is small and there were no diagnostic artifacts found, few pre-ceramic sites have been excavated where intact features were present and there appeared to be no mixture with post-Archaic components. For this reason, the site is considered eligible for inclusion in the National Register of Historic Places, under Criterion D, for the information the site might provide in prehistory.

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